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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,145	08/10/2001	Thomas J. Kane	LWE-142	4048

7590

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EXAMINER

NGUYEN, TUAN M

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/927,145

Applicant(s)

KANE ET AL

Examiner

Tuan M Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding to claims 1-32 are vague and indefinite.

For example, claims 1 and 16 recite “a passively Q-switched laser” for delivering a pulsed primary beam at a primary wavelength. The claims can not read from drawing, it is not clear whether “a passively Q-switched laser” to generate a primary beam or the “passively Q-switched laser” is receiving the primary beam from the pump source as shown in figure 1 of this application. The claims also recite “a format calibrated for a predetermined frequency conversion efficiency”. It is not clear what “a format calibrated for a predetermined frequency conversion efficiency” is meant in the claims which render the claims confusing, vague and indefinite.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 11-16, 19-23 and 28-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Goldberg et al ('306).

With respect to claims 1 and 16, Goldberg et al disclose the fiber amplifier (110) for receiving said primary beam and amplifying the primary beam to produce a pulsed intermediate beam of intermediate pulses at said primary wavelength, a nonlinear element (130) for frequency converting said pulsed intermediate beam in a single pass at said predetermined frequency conversion efficiency to produce a pulsed output beam at an output wavelength, a mirror (116) and the fiber (110) is an acousto-optic modulator (AO) or electro-optic modulator (118) which acts as a Q-switch, note col. 1 line 15 to col. 7 line 51, see fig. 1.

With respect to claims 2-3 and 19-20, Goldberg et al disclose primary wavelength ranges from 860 nm to 1100nm and the output wavelength ranges from 430nm to 550nm, note col. 1 line 44 to col. 8 line 65.

With respect to claims 4-6 and 21-23, Goldberg et al disclose the fiber amplifier is a cladding pumped amplifier and has predetermined core section, note col. 4-5.

With respect to claims 11-13 and 28-30, Goldberg et al disclose non linear optical crystal comprises a borate is selected from the group consisting of LBO and BBO, note col. 1

With respect to claims 14-15 and 31-32, Goldberg et al disclose predetermined conversion efficiency is at least 10% and about 50%, note col. 4 line 43 to col. 6 line 63.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 7-10 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg et al ('306) in view of Galvanauskas et al ('458).

With respect to claims 7-9 and 24-26, Goldberg et al disclose Q-switched laser, note col. 5. However Goldberg et al do not disclose Q-switched laser comprises a saturable absorber Q-switch, and primary pulses with a duty cycle ranging from .01% to 1% and it having an interpulse separation of at least 100 times said pulse width. Whereas Galvanauskas et al disclose the saturable absorber Q-switch and the primary pulses with a duty ranging from .01% to 1% and interpulse separation of at least 100 times said pulse width, note cols. 11-12. For the advantageous of Q-switched laser system in particular for laser lithotripsy, it would have been

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obvious to one having ordinary skill in the art at the time the invention was made to provide Muller with the saturable absorber Q-switch as taught or suggested by Galvanauskas et al.

With respect to claims 10 and 27, Galvanauskas et al disclose saturable absorber Q-switch is set to operate said passively Q-switched laser at a primary pulse repetition rate of 1-10 KHz, note col. 14. However Galvanauskas et al do not disclose the primary pulse repetition rate of at least 100 KHz. Since it has been held that discovering an optimum value of a result effect variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

7. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg et al ('306) in view of Flint (' US 2002/0060753).

With respect to claims 17-18, Goldberg et al disclose all limitations as set forth in the claims 1 and 16. However Goldberg do not disclose of display pixels being refreshed at a refresh rate. Whereas Flint discloses a plurality of display pixels being refreshed at refresh rate, note section 012 to section 045. For the benefit a plurality of display pixels, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Goldberg with the display pixels being refreshed at a refresh rate as taught or suggested by Flint.

Citation Of The Pertinent References

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclose.

The patent to Batchko et al (US patent 6,480,325) discloses laser light source and image display based on quasi phase matched nonlinear optical devices.

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The patent to Galvanauskas et al (US patent 6,208,458) discloses quasi-phase matches parametric chirped pulse amplification systems.

The patent to Galvanauskas et al (US patent 6,181,463) discloses quasi-phase matches parametric chirped pulse amplification systems.

The patent to Masuda et al (US patent 6,249,371) discloses wavelength converter.

The patent to Birnbaum et al (US patent 5,802,083) discloses saturable absorber q-switches for 2 μ m laser.

Communication Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan M Nguyen whose telephone number is (703) 306-0247.

The examiner can normally be reached on 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.



Paul Ip
SPE
Art unit 2828

TMN
April 8, 2003